2. (Once amended) The system of claim 1 wherein fusion of said fusionable material generates a plasma that interacts with said spherical electromagnetic confinement field in a magnetohydrodynamic manner.

3. The system of claim 1 wherein said reactor core and said conducting spheres form a magnetic circuit and fusion of said fusionable materials establishes a magnetic flow around said magnetic circuit.

4. The system of claim 3 further comprising:

means operably connected to at least one of said conducting spheres for inductively extracting electrical energy in response to said magnetic flow.

7. The system of claim 1 wherein said conducting spheres are of a uniform size.

8. The system of claim 1 wherein each conducting sphere is comprised of a spherical conductive layer having a non-conductive material contained within said spherical conductive layer.

9. The system of claim 8 wherein said conductive layer is comprised of a copper-niobium alloy and said non-conductive material is amorphous carbon.

10. The system of claim 1 wherein said conducting sphere and said reactor core are arranged in an oval with said reactor core located in a middle of a straight segment of said oval and said means for initiating said electromagnetic confinement field is located along another straight segment of said oval.

11. The system of claim 1 wherein said conducting spheres are positioned in a non-conductive retaining channel, said retaining channel having dimensions that permit thermal expansion of said conducting spheres during operation of the system.

12. The system of claim 11 wherein said retaining channel contains a non-conductive liquid coolant.

13. The system of claim 11 wherein said retaining channel contains a liquid coolant and said conducting spheres include an insulating layer surrounding at least a portion of each conducting sphere.

14. The system of claim 1 further comprising:

means operably connected to at least one of said conducting spheres for inductively extracting electrical energy.

15. (Once amended) The system of claim 14 wherein said means for initiating said electromagnetic confinement field and said means for extracting electrical energy comprise a coil arrangement positioned around at least one of said conducting spheres, said coil arrangement selectively operably coupled to a source of electrical energy for said means for initiating said electromagnetic confinement field and to a power grid for said means for extracting electrical energy.

17. The system of claim 14 wherein said source of electrical energy comprises a bank of charged electrical capacitors.

18. The system of claim 1 wherein said plurality of conducting spheres comprise at least ten conducting spheres arranged adjacent each other in an oval pattern.

19. The system of claim 18 wherein said oval pattern includes a plurality of reactor cores.

20. The system of claim 1 wherein said two of said conducting spheres adjacent said reactor core include a divot region defined in a portion of the conducting sphere adjacent said reactor core.

Q3

22. (Once amended) The system of claim 29 wherein said conducting sphere and said reactor core are arranged in an oval with said reactor core located in a middle of a straight segment of said oval and said means for inductively extracting electrical energy is located along another straight segment of said oval.

Q4

24. (Once amended) A nuclear fusion reactor system comprising:

a reactor core containing nuclear fusionable material;

means for creating a spherical electromagnetic confinement field proximate said reactor core; and

means for initiating fusion of said fusionable material that generates a plasma which interacts with said spherical electromagnetic confinement field in a magnetohydrodynamic manner.

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26. (Once amended) A nuclear fusion reactor system comprising:

a reactor core containing nuclear fusionable material;

means for creating a spherical electromagnetic confinement field proximate said reactor core; and

means for initiating fusion of said fusionable material such that said spherical electromagnetic confinement field creates a magnetohydrodynamic effect within said reactor core.

28. The system of claim 15 wherein said coil arrangement comprises at least one hemispheric coil.

29. A nuclear fusion reactor system comprising:

a reactor core containing nuclear fusionable material;

a plurality of conducting spheres arranged adjacent each other with at least two of said conducting spheres adjacent said reactor core;